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**Faculty of Science Department of Biology Course Syllabus****BIOL 3622 'Ornithology'****Online Delivery, Summer Term 2020****Instructor: Sarah E. Gutowsky****Course email: dalhousie.ornithology@gmail.com**

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**Course Description from the Dalhousie Academic Calendar**

Overview of avian biology and techniques for the scientific study of bird populations, including identification by sight and sound. Field-intensive, with 8 days in the field, including one week camping at a field station in southwestern Nova Scotia to conduct research on birds in their natural habitats. Addendum: Due to COVID-19, this course has been adapted for online delivery. However, it remains skills-focused and field intensive. Emphasis will shift to local bird communities around each student's home-base.

**Course Prerequisites**

BIOL 2003.03 (Diversity of Life) or BIOL 2060.03 (Introductory Ecology) or BIOA 3001.03 (Ecology) or permission of the instructor.

**Course Materials and Web-based Platforms**

This course is delivered entirely online. You will need reliable access to a computer and internet. Course materials will be delivered via a variety of web-based platforms, all through the Brightspace course website and email. You must regularly check the course website and your emails for announcements. A detailed daily schedule will be provided each day to guide you through the materials and assignments. Important web-based platforms used in this course include Collaborate Ultra and Panopto.

**Required Supplies**

Because this course is delivered online, there are no auxiliary fees. There is no assigned textbook. You are, however, required to obtain some equipment and supplies in order to complete the course. You will need a clipboard, pencils, and smartphone with capability to install applications. You will need to acquire a Rite in the Rain All-Weather Side-Spiral Notebook of size 4 5/8" x 7" in Universal Pattern (No. 373). [On Amazon, the cost is \\$15.54 plus shipping \(link here\)](#). You will also need to acquire a pair of quality midsize binoculars in the price range of \$150-250, ideally 8x magnification power and 42mm objective lens size. They should be rugged and at least water resistant. [See this website for more information about binocular specs](#). Some recommended brands and models available from Amazon include [Bushnell Legend E Series](#), [Bushnell H20](#), [Nikon Prostaff](#), or [Celestron Nature](#). You will need to acquire all of these supplies before Day 5, so please take into account delivery time when placing your orders.

## **Course Overview**

This course is designed to give students an overview of avian biology, with an emphasis on studying birds in the field. This field-intensive class is hands-on and applied; students learn by doing. Through focused and condensed lectures, interactive online skills-based workshops, daily assignments, and extensive field outings in your local area, you will learn about the evolution, adaptations, and diversity of birds, key aspects of their ecology and behaviour, and techniques and strategies for the study of their behaviour, populations and communities. You will also gain experience in conducting field studies, including study design, data collection, data synopsis and presentation of results. You will be amazed at how much you will have learned in just over 2 weeks. A walk outside will never be the same again!

## **Course Learning Objectives**

At the end of the course, students will be able to:

- 1) *Explain* the behavioural, morphological, and physiological characteristics that distinguish the Class Aves from other animal taxa.
- 2) *Identify* and *understand* general themes in avian ecology and evolution (e.g. communication, mating, foraging, feathers, flight).
- 3) *Appreciate* the conservation issues affecting bird species, populations, and communities.
- 4) *Identify* most of your local bird species by sight and sound.
- 5) *Generate* relevant and detailed field notations of bird behaviour.
- 6) *Integrate* knowledge of principles and methods into the design and implementation of a research project that effectively addresses a research question about bird ecology.
- 7) *Communicate* scientific ideas effectively both in writing and through oral presentations.

## **Field Outings**

*Students are expected to follow the guidelines from their local Health Authorities on recommended physical distancing and travel restrictions while undertaking field outings. Stay within your neighbourhood when possible.*

## **Course Program**

This course is immersive and intense. You will complete a semester of learning in just 15 days; your commitment and time management are paramount to your learning experience and success. You should expect to spend a minimum of 10 hours every day for 15 days engaging with this course. This is the same expectation as the in-person delivery version. You will be provided with a course schedule overview (syllabus) and a detailed daily task schedule (Brightspace) to keep you organized and on track. Lectures and assignment demonstrations are pre-recorded and available at all times. Skills-based

training and development in identification and behavioural observation will be provided through a series of courses from the Cornell Lab of Ornithology's Bird Academy, for which we have been granted special free access for our course. Live group video check-in sessions with your teaching team will be hosted daily (time to be announced each day). For the duration of the course, your instructor will be available for one-on-one support 24/7 via phone, and will reply to emails within 1 hour during waking hours. Daily assignments will be graded by your teaching team and returned within 24 hours to ensure quick feedback. Your teaching team will be here to support you through every step in your birdy learning adventure.

### Course Schedule Overview

Day	Main Topics	Tasks
1	<ul style="list-style-type: none"> <li>- avian evolution and diversity</li> <li>- becoming acquainted with your local species through eBird</li> </ul>	<ul style="list-style-type: none"> <li>- videos: course introduction, lectures, assignment instructions</li> <li>- Day 1 Assignment (8%)</li> </ul>
2	<ul style="list-style-type: none"> <li>- avian behaviour, form and function: foraging and flight</li> <li>- external and skeletal avian anatomy</li> <li>- bird identification skills</li> <li>- form/function in your local species</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 2 Assignment (8%)</li> </ul>
3	<ul style="list-style-type: none"> <li>- avian conservation and management</li> <li>- conservation status of your local species</li> <li>- sounds of your local species</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 3 Assignment (8%)</li> </ul>
4	<ul style="list-style-type: none"> <li>- avian behaviour, form and function: breeding and migration</li> <li>- internal avian anatomy</li> <li>- bird identification skills</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 4 Assignment (8%)</li> </ul>
5	<ul style="list-style-type: none"> <li>- observing and understanding bird behaviour</li> <li>- observational field methods</li> <li>- birding safely and ethically</li> </ul>	<ul style="list-style-type: none"> <li>- videos: lectures, assignment instructions</li> <li>- Day 5 Assignment (8%)</li> </ul>
6	<ul style="list-style-type: none"> <li>- bird identification skills</li> <li>- behavioural observation</li> <li>- eBird checklists</li> </ul>	<ul style="list-style-type: none"> <li>- videos: assignment instructions</li> <li>- Day 6 Assignment (3%)</li> <li>- go birding</li> </ul>
7	<ul style="list-style-type: none"> <li>- bird identification skills</li> <li>- behavioural observation</li> <li>- sound recordings</li> </ul>	<ul style="list-style-type: none"> <li>- videos: assignment instructions</li> <li>- Day 7 Assignment (3%)</li> <li>- go birding</li> </ul>
8	<ul style="list-style-type: none"> <li>- bird identification skills</li> <li>- behavioural observation</li> <li>- point count surveys</li> </ul>	<ul style="list-style-type: none"> <li>- videos: assignment instructions</li> <li>- Day 8 Assignment (2%)</li> </ul>



		- go birding
9	- bird identification skills - behavioural observation - field research project design	- videos: assignment instructions - Day 9 Assignment (2%) - go birding
10	- bird identification skills - behavioural observation - carrying out a field research project	- go birding - field project data collection
11	- bird identification skills - behavioural observation - carrying out a field research project	- go birding - field project data collection
12	- bird identification skills - behavioural observation - carrying out a field research project	- go birding - field project data collection
13	- bird identification skills - carrying out a field research project	- virtual field ID quiz - field research project presentation and report writing
14	- carrying out a field research project	- field research project presentation and report writing
15	- carrying out a field research project - presenting your own research	- record project presentation with Panopto - provide project presentation feedback to peers - field research report writing

### Course Assessment

Assessments	Marks %	Due dates
Assignments (9 total, of varying weight)	50	Following day by noon AST
"Field" Quiz on species identification	5	Day 13
Field Notebook & Checklist Reporting	15	Day 14
Project Presentation	10	Day 15
Field project data report	15	Day 16 by midnight AST
Dedication	5	ongoing
<b>TOTAL</b>	<b>100</b>	

Conversion of numerical grades to Final Letter Grades follows the Dalhousie Common Grade Scale:

<b>A+</b> (90-100)	<b>B+</b> (77-79)	<b>C+</b> (65-69)	<b>D</b> (50-54)
<b>A</b> (85-89)	<b>B</b> (73-76)	<b>C</b> (60-64)	<b>F</b> (<50)
<b>A-</b> (80-84)	<b>B-</b> (70-72)	<b>C-</b> (55-59)	

**Dedication**

Your success in this course relies on your commitment and determination. Most of your work will be independent, requiring careful time management and self-motivation. However, you are part of a class of students who are all overcoming the same challenges and working toward the same objectives. Together, we all need to strive to create a community. This means attending and contributing to our daily live video check-ins. Asking your questions and sharing your observations and experiences during our class meetings will inevitably help your classmates. You are also expected to provide timely feedback for your peers when asked to do so. You should always provide constructive and respectful feedback. Always be aware of your tone; communication can come across with a tone that you did not intend, which can be easily misinterpreted. At the end of the course, you will be given a grade out of 5 reflecting your overall level of dedication based on meeting attendance and class contributions. If at any point during the course you would like to discuss your current dedication level status, contact the teaching team at the course email address.

**Field Research Projects and Presentations**

You will devise and conduct a field research project on bird ecology in your local area. Your project topic will be of your choosing based on your own observations and interests. On Days 1-8, you will be thinking about potential ideas for your project and conducting preliminary research on your topic. You are encouraged to reach out to the teaching team at any time for feedback on developing your ideas. On Day 9, you will formalize your project plan through a one-on-one video conference meeting with the teaching team. You will collect your field data over 3 days (Days 10-12). On Day 15, you will present your project and results via Panopto (further instructions will be posted on Brightspace). Each student will be assigned to a group of 4, who will watch each other's presentations and provide feedback (as part of the Dedication grade). You will submit your final Field Project Report one day after the completion of the course, on Day 16 by midnight AST. *\* Remember to take lots of photos of your field sites and data collection for use in your presentation and report! \**

**Field Project Report**

You will report the findings of your field research project in a single document. Instruction for submission will be posted on the course website. You will include all of the following elements in your report (these should be easily identifiable but do not need to follow any particular format):

Project Title

Name of Researcher

Timeframe of research (dates and times of data collection)

Project rationale and research question

Specific research objectives

Species studied and relevant ecological details

Study location (with coordinates) and detailed habitat descriptions



Techniques used to collect data and description of data collected  
Results (included as appropriate figures, photos, maps, etc)  
Discussion and conclusions  
Recommendations for future studies  
Literature Cited

### **Field Notebooks and Checklist Reporting**

When conducting field studies it is extremely important to document everything you do and see that may be relevant to the data you collect. If you are hired to conduct a study, your employer will want a copy of your field notes. A field notebook is a public record, which means it may be scrutinized closely. It is important to develop the skills of taking careful, accurate, complete, neat, and well-organized notes. Therefore, maintaining your personal field notebook will be an essential part of this class and is worth 10% of your grade. Record all information from field outings and focal observations in real time. Copied over notes are easily identifiable and will NOT be accepted. You will also submit an eBird Checklist for every field outing, and a final eBird Checklist Report, together worth 5% of your final grade. Further details will be made available on Brightspace.

### **Field Notebook Marking Scheme**

#### **Format and organization (20%): \_\_\_\_\_ out of 2.0**

- front cover – full name in permanent marker
- inside cover - mailing address, e-mail address, phone number
- Numbered pages – starting after table of contents
- Clearly delineated sections (Field Outings, Focal Observations, ID Guide)
- Tables of contents – to be easily navigated by any user, provide as much information as possible for each notebook entry
- Legend - all codes (acronyms and symbology) defined clearly and used consistently
- all writing relatively neat (considering it is written in the field), and easy to read
- all dates and times to follow a consistent format

#### **Documentation of field outings (20%): \_\_\_\_\_ out of 2.0**

- pertains to all field outings where an eBird checklist was submitted
- minimum information recorded includes start location coordinates, date, start time, end time, weather conditions including temperature, sky and wind, habitat described/classified, total species detected
- option to record notes for later species identification

#### **Focal observations (25%): \_\_\_\_\_ out of 3.5**

- at least 10 entries, titled and numbered for Table of Contents, each for a different species/activity/event



- each entry must include location, date, time started and ended, total observation duration, environment and context of observations
- observations should include detailed descriptions of behaviours you observed closely
- pose questions about what you're observing in light of what you've learned in the course, make inferences and propose potential explanations
- entries must be minimum 1 page with no maximum length, but manage your notebook space
- drawing is encouraged but not required
- avoid anthropomorphism: birds are birds, not winged humans

**Quick ID Reference Guide (15%): \_\_\_\_\_ out of 2.5**

- a reference guide for yourself, useful while in the field
- for each species you have or expect to encounter, record reminders of sounds, behaviours, appearance, habitat, or specific sites
- minimum of 4 pages in length

**Field notebook mark: \_\_\_\_\_ out of 10 marks**

**Field Quiz on species identification**

On Day 13, you will complete a “field” quiz on identification of your local species, worth 5% of your final grade. Beginning on Day 1, you will start to learn to identify the 100 most common species in your area. You will compile a list, create a library of sounds, and focus on species from your list in each assignment. You will work at building your identification skills and recognition of your local species by sight and sound over the duration of the course. Based on the species which you encounter during your field week, your teaching team will create a personalized “field quiz” to be conducted over live video conferencing. Your examiner will share images and play sounds from your species list, and you will identify them using only your field guide (visuals from book or app) and field notebook. Your designated quiz time will be assigned on Day 12, and will last a maximum of 30 minutes. It is meant to be fun; you'll be shocked at just how much you've learned!

## **Class Policies**

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To avoid any misunderstanding throughout the course, please note the following policies and information will be enforced by the instructor to ensure transparent, fair and equal treatment for all. Extenuating circumstances are inevitable and you are encouraged to communicate with your instructor if you have any issues or require special consideration at any time during the course. These procedures are in accordance with and/or in addition to the relevant sections in the current University Calendar. If there is any discrepancy, the University Calendar will take precedence.

### **Respectful and consistent participation is mandatory**

You are expected to attend and participate in all class meetings and conduct yourself professionally at all times. If you fail to do so, your Dedication grade will be reduced in proportion to the severity of the problem.

### **Assignments and Grading**

All assignments should be typed, well written and spell-checked before submission. To maximize your mark, please use care in ensuring all required components as listed in the assignment instructions or rubrics have been met to the very best of your ability. Although most assignments will have a detailed point distribution for marking, the teaching team have discretionary power to deduct additional points (up to 20%) for overall sloppy writing, poor grammar and spelling, inadequate referencing, glaring omissions, and general inferior quality of the assignment.

Any material submitted for evaluation after the designated deadline will result in marks deducted from your Dedication grade (-1/2 mark per day late). The stress that results from procrastinating on the completion of assignments is avoidable. **PLAN AHEAD & WORK SYSTEMATICALLY.** Your time at Dalhousie should serve to teach you effective time management skills.

Extensions without a late penalty will be given only with a valid (medical or otherwise) excuse. If you need an extension for an assignment, communicate with the teaching team.